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ration of FIG. 17 involves a backwards tilt of display 14 at an angle B away from planar (flat) display position 125. Angle B may be, for example, 0° to 180°. If desired, a user may tilt display 14 to a position such as position 127. In position 127, display 14 is tilted forward from planar display position 125 by an angle C. Angle C may be, for example, an angle in the range of 0° to 180°.

As shown in the example of FIG. 18, flexible display 14 and flexible support structure 124 may be bent in direction 126 to move display 14 and structure 124 from position PA to position PB. When flexible display and support structure 124 are in a position such as position PB of FIG. 18, device 10 may be placed on a surface such as surface 91, so that portion 14C of display 14 may be viewed by a user. If desired, the portion of display 14 that rests against surface 91 may be protected by a layer of cover glass and/or by providing housing 12 with raised peripheral ridge portions that prevent scratching of display 14.

As shown in FIG. 19, device 10 may be provided with engagement features such as hook 128 and notch 132. Hook 128 may be attached to support structure 124 or other portion of the housing structures that support display 14. Notch 132 may be configured to receive hook 128 when display 14 is bent downwards in direction 130. As shown by dashed line 136, hook 128 may mate with notch 132 when display 14 has been placed in position 134. This type of configuration or other suitable engagement feature arrangement may be used in holding display 14 into a back-to-back position (i.e., a configuration in which the folded portion of display 14 is in position 134 of FIG. 19 and is facing upwards while the unfolded portion of display 14 is facing downwards). The use of engagement features based on a hook-and-notch arrangement is merely illustrative. Other types of engagement features (e.g., engagement features 129 and 131 in the example of FIG. 19) may be used if desired (e.g., magnetic structures, snaps, hook-and-loop fastener material, other interlocking shapes, etc.).

As shown in FIG. 20, device 10 may have a hinge that is formed from a flexible portion of housing 12. In the configuration of device 10 that is shown in FIG. 12, housing 12 has first portion 12A and second portion 12B that are interconnected using hinge 26. Components 144 may be mounted in housing 12. For example, components 144 may be mounted in the interior of housing portion 12A and/or in the interior of housing portion 12B. Components 144 may be mounted on substrates such as rigid printed circuit boards, flexible printed circuit boards, plastic carriers, or other substrates (shown as substrates 142 in FIG. 20). Interconnection paths formed from flex circuit cables, wires, interconnect traces on printed circuit boards and other substrates, and other interconnect paths may be used in interconnecting components 144 and flexible display 14. For example, flexible communications path 140 may be coupled between substrate 142 in housing portion 12A and substrate 142 in housing portion 12B. Path 140 may be connected to traces on the substrate in housing portion 12A at connection point 146 and may be connected to traces on the substrate in housing portion 12B at connection point 148. The traces on the substrates may be used to interconnect components 144 with each other and to path 140. Components 144 may include components such as connectors, integrated circuits (e.g., display driver circuitry for controlling display 14), discrete components such as inductors, resistors, and capacitors, sensors, status indicator lights, cameras, microphones, speakers, antennas, batteries, etc.

To facilitate bending of display 14 and housing 12 in the vicinity of hinge 26, housing 12 may, as an example, be

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formed from a flexible material. Examples of flexible materials that may be used in forming housing 12 include flexible polymers, composite structures (e.g., fiber-based composites, fiber-impregnated polymers, etc.), fabrics, and flexible metals. When housing portions 12A and 12B are rotated relative to each other around hinge axis 18, housing 12 may flex.

Inflexible structures such as structures 138 may be used to locally strengthen the walls of housing 12 in regions of housing 12 away from hinge 26. For example, housing 12 may be provided with rigid support structures such as support structures 138. Structures 138 may be formed from glass, ceramic, metal, fiber-composites, other suitable materials, combinations of these materials, or other suitable materials. Structures 138 may be configured to form rigid box-shaped shells or shells of other shapes that partly or completely surround and protect internal components 144 in housing portions 12A and 12B from damage when the flexible material of housing 12 is being used as a hinge and is being flexed (with flexible display 14) about axis 18. When device 10 is flexed around axis 18, the flexible portions of housing 12 that form hinge 26 may flex. Recessed region 138 may be provided in housing 12 to facilitate flexing of housing 12. As device 10 is flexed, flexible communications path 140 may flex, while maintaining an electrical pathway for signals passing between housing portions 12A and 12B.

FIG. 21 shows how a device having a hinge formed from a flexible portion of housing 12 such as device 10 of FIG. 20 may appear when housing portions 12A and 12B have been manipulated to flex hinge 26 and place flexible display 14 in a face-to-face configuration. FIG. 22 shows how device 10 of FIG. 20 may appear when housing portions 12A and 12B have been manipulated to place flexible display 14 in a back-to-back configuration. In configurations of the type shown in FIGS. 21 and 22, engagement features 129 and 131 (e.g., magnetic structures, hook-and-loop fasteners, hook and notch structures, other mating structures, or other suitable engagement features) may be used in holding housing portions 12A and 12B in desired positions.

FIG. 23 is a side view of an illustrative electronic device with three separate housing portions 12A, 12B, and 12C. As shown in FIG. 23, housing portions 12A and 12B in device 10 may be coupled using hinge 26A and housing portions 12B and 12C may be coupled using hinge 26B. Additional housing portions may be provided in device 10 if desired, as indicated by dots 200. Hinges 26 may be formed from flexible housing portions, from three-bar or four-bar linkages, from members containing slots (as shown in FIG. 23), from flexible metal layers or other sheets of flexible support structure material, from other hinge structures, or from combinations of such structures.

When it is desired to place a device such as device 10 into a folded configuration, housing portion 12A may be rotated relative to housing portion 12B in direction 202 and housing portion 12C may be rotated in direction 204 relative to housing portion 12B (as an example). Following folding in this way, electronic device 10 may have a configuration of the type shown in FIG. 24. In this type of configuration, the portions of flexible display 14 that are associated with housing portions 12A and 12B may have a face-to-face configuration, whereas the portions of flexible display 14 that are associated with housing portions 12B and 12C may have a back-to-back configuration. If desired, hinges 26A and 26B may be configured so that housing portions 12A and 12C can both fold inwardly onto housing portion 12B. The arrangement shown in FIG. 24 is merely illustrative.